R842-05 ERIC REPORT RESUME

ED 010 264 2-28-67 08 (REV)

VO-TECH, CONTINUING INFORMATION PROGRAM.

TESKE, P.

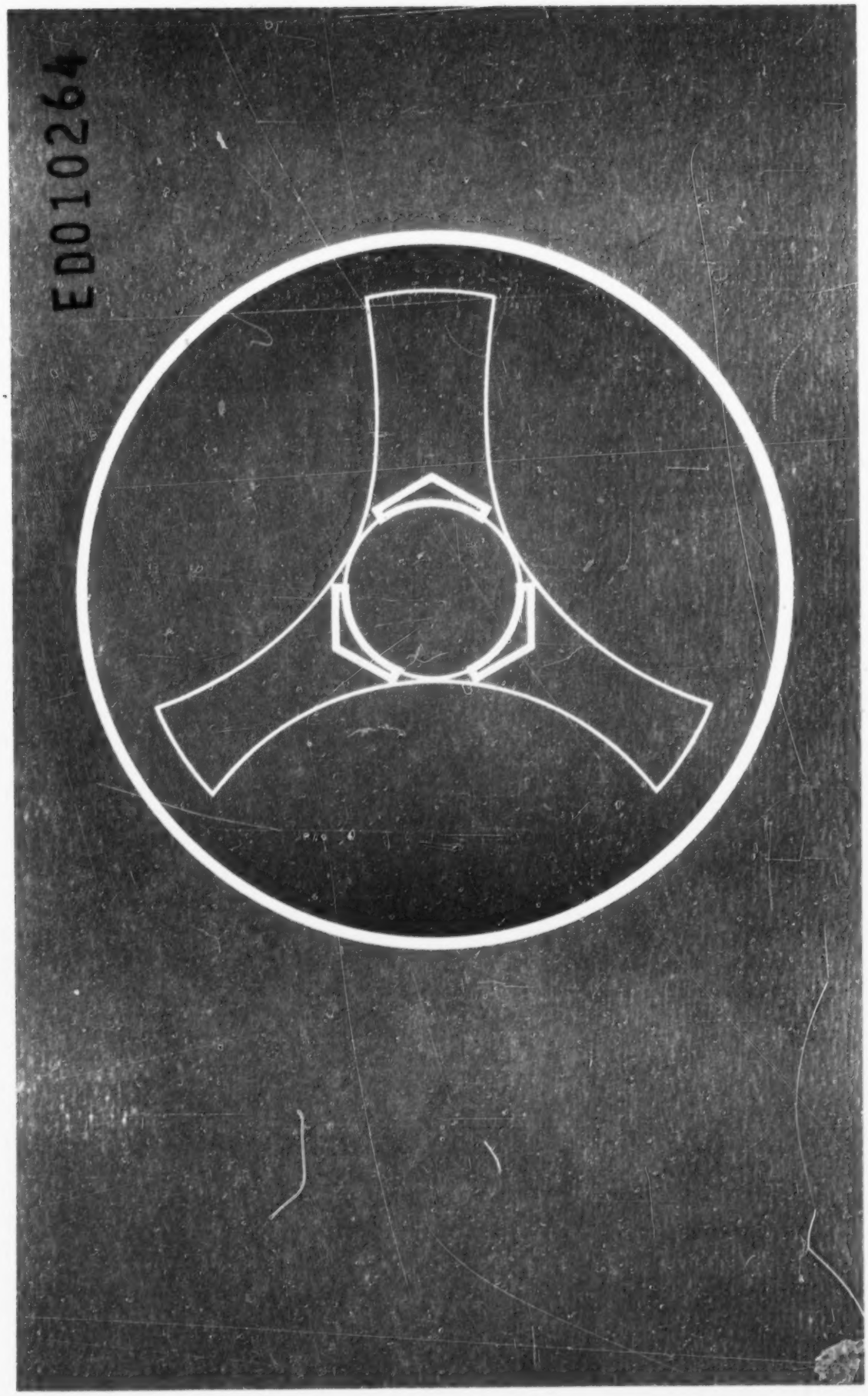
UUR70291 STANFORD UNIV., SCH. OF EDUC., CALIF.
ERD-481
BR-5-1165
- -65
EDRS PRICE MF-$0.09 HC-$1.08 27P.

*VOCATIONAL EDUCATION, *SCHOOL COMMUNITY PROGRAMS, *COMMUNITY INVOLVEMENT, *BUILDING DESIGN, BUILDING INNOVATION, SCHOOL CONSTRUCTION, *SCHOOL DESIGN, BUILDINGS, EDUCATIONAL EQUIPMENT, STANFORD, CALIFORNIA

THE NEED FOR A COORDINATED PLANNING EFFORT BY THE EDUCATOR, THE EDUCATIONAL CONSULTANT, THE COMMUNITY, AND THE ARCHITECT TO DEVELOP THE VOCATIONAL-TECHNICAL SCHOOL IN A MANNER FILLING THE UNIQUE FUNCTIONAL REQUIREMENTS OF THE COMMUNITY WAS EXPRESSED. SOME OF THE AREAS TO BE INCLUDED IN THE FACILITY INCLUDE INSTRUCTIONAL SPACES, PRODUCTION LABORATORY SPACES, COMMUNICATION AND RESOURCE SPACES, AND SPACES FOR SPECIFIC JOB TRAINING PROGRAMS. (LP)

SECTION 1

ED010264



FACILITIES

U. S. DEPARTMENT OF HEAL
Office of
This document has been repro
person or organization origi
stated do not necessarily repr
position or policy.

ED010

vo-tech / CONTINUI

breakthrough

SE SCHOOL OF EDUCATION • STAN

SECTION 2

5-1165
ED 10 - 481

FACILITIES PLANNING

U. S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE
Office of Education
This document has been reproduced exactly as received from the person or organization originating it. Points of view or opinions stated do not necessarily represent official Office of Education position or policy.

ED010264

vo-tech / CONTINUING INFORMATION PROGRAM

breakthrough

SCHOOL OF EDUCATION • STANFORD UNIVERSITY • STANFORD, CALIFORNIA

SECTION 1

The School Planning Laboratory, School of Education, Stanford University, produced
operation of the United States Office of Education for the purpose of exploring new f
Vocational and Technical education.

SECTION 2

boratory, School of Education, Stanford University, produced this report with the co-
States Office of Education for the purpose of exploring new facilities developments in
education.

PLANNING VO-TECH FACILITIES

KEEPING UP WITH EDUCATIONAL TRENDS IS YOUR CONCERN.

The considerations involved in planning for a Vo-Tech school are many and complex. Educators and architects must have a fundamental awareness of the depth and breadth of these problems in order to best serve the present and future needs of their community.

SECTION 1

PROGRAM CONSIDERATIONS

SOME OF THE MAJOR CONCERNS FACING VO-TECH EDUCATION, PRESENT AND FU

INCREASED DEMAND FOR VO-TECH EDUCATION

"Technological change and the ensuing automation of many economic activities have not only off the farm but in all types of industry in this country. The shift of emplo has placed great demands on our educational systems and institutions to assure ou cational background which will be suitable to the world of work they will find upon g

"One fifth of all American families live on less than $3000 per year income and 12 less than $2000. Of this poorer group, 54% live in the cities and 16% on the fa rural non-farm residents such as those in the great Appalachian area. We have a this country of approximately 5%, but the present rate among our teenagers is 14 Negro teenagers is approximately 30%. Some 750,000 to 800,000 teenagers are un

"Even though we have increased federal funds in the vocational education program million to $159 million, WE HAVE NOT YET FILLED THE NEED IN OUR VOCATIONA EVERY CITIZEN OF AN OPPORTUNITY FOR THE TRAINING WHICH OUR ECONOMY DIVIDUAL NEEDS TO REALIZE HIS FULL POTENTIAL.

"It is estimated that by 1970 we will have about 87 million people at work in this imately 58 million of the people now employed will need their skills upgraded. It only to the vocational education leadership, but also to all educators."

Delivered: Los Angeles
January, 1965

ERATIONS

ONCERNS FACING VO-TECH EDUCATION, PRESENT AND FUTURE:

OR VO-TECH EDUCATION

and the ensuing automation of many economic activities have created job dislocations ut in all types of industry in this country. The shift of employment from farm to city nds on our educational systems and institutions to assure our rural youth of an edu- ich will be suitable to the world of work they will find upon graduation.

can families live on less than $3000 per year income and 12% live on an income of is poorer group, 54% live in the cities and 16% on the farms and about 30% are ts such as those in the great Appalachian area. We have an unemployment rate in mately 5%, but the present rate among our teenagers is 14% and the rate for our oximately 30%. Some 750,000 to 800,000 teenagers are unemployed today.

increased federal funds in the vocational education program from approximately $47 WE HAVE NOT YET FILLED THE NEED IN OUR VOCATIONAL SCHOOLS TO ASSURE OPPORTUNITY FOR THE TRAINING WHICH OUR ECONOMY REQUIRES AND THE IN- EALIZE HIS FULL POTENTIAL.

1970 we will have about 87 million people at work in this country and that approx- he people now employed will need their skills upgraded. It is a great challenge, not ucation leadership, but also to all educators."

Carl D. Perkins
U. S. Representative
Kentucky

SECTION 1

INCREASED NEED FOR VO-TECH EDUCATION

"Automation, cybernation, increasing output per manhour, reducing manhour requi
duction—it all adds up to the same thing. You need less manpower to get out a give

"Here is an example—because every one of these things is happening right no
more cars than in 1955, the previous record year, but we did it with 18 percent fe

"In 1964 we had more people employed, they worked longer hours, the average
$103 a week. You name it: we made a record. But unemployment among young peo

"In 1963 the unemployment rate among teenagers was 250 percent of the national
to 285 percent of the national rate.

"It's no longer a neat, stable world where you can take young people and give t
vocational education that will fit them snugly into a nice job slot. For better or for

"VOCATIONAL EDUCATION IS THE PROCESS WHICH HELPS PEOPLE AT ALL AGES
DEVELOPMENT TO WITHSTAND THE INEVITABLE CHANGES THAT ARE GOING T
TIONSHIP BETWEEN WHAT THEY LEARNED AND WHAT THEY ARE GOING TO BE
THE WORLD OF WORK."

Seymour Wolfbein
Deputy Manpower A
Office of Manpower,
U.S. Department of L

Delivered: Los Angeles
January, 1965

SECTION 2

-TECH EDUCATION

increasing output per manhour, reducing manhour requirements per unit of pro-
the same thing. You need less manpower to get out a given unit of production.

ecause every one of these things is happening right now—last year we put out
ne previous record year, but we did it with 18 percent fewer workers.

people employed, they worked longer hours, the average factory wage was up to
: we made a record. But unemployment among young people went **up**!

nt rate among teenagers was 250 percent of the national rate. By 1964 it was up
nal rate.

table world where you can take young people and give them some lovely form of
will fit them snugly into a nice job slot. For better or for worse, it's not that way.

N IS THE PROCESS WHICH HELPS PEOPLE AT ALL AGES OF THEIR EDUCATIONAL
STAND THE INEVITABLE CHANGES THAT ARE GOING TO OCCUR IN THE RELA-
T THEY LEARNED AND WHAT THEY ARE GOING TO BE CALLED UPON TO DO IN

Seymour Wolfbein
Deputy Manpower Administrator and Director
Office of Manpower, Automation, and Training
U.S. Department of Labor

SECTION 1

INCREASED USE OF NEW TECHNIQUES IN VO-TECH EDUCATION

"There is a need to commit ourselves totally to a new concept of vocational educatio must be possible for any one to become qualified for gainful employment—no matter ries with him from his growth environment into the world of work. The other side of tire economy will be helped by reaping the benefits of advancing technology.

"It is obvious that education in this country, both formal and informal, is totally economy which is burgeoning from one end of this land to the other. Vocational ed this and the development of skill and technical knowledge is a great asset to a dynam and age, the total effort of the nation bears a direct ratio to its investment in h vocational education is often referred to, correctly, as one of America's greatest resou

"There is certainly general agreement among educators and others concerned with th that modern life holds few berths for the uneducated and the poorly prepared. Yet simply been inaccessible to too many people.

"The new Vocational Education Act is really new. It does not represent merely a re forces within the vocational and technical fields. The Act recognizes that a **complex t pected to stand still**. The world of year 2015 will be as different from this one as when our great-grandfathers were young. This is no time to be looking backward wi of the little red schoolhouse—or even the days of the big red brick schoolhouse. It to make a determination about what vocational education should be like, and mus economy.

"A TOTAL BALANCED PROGRAM OF VOCATIONAL EDUCATION SHOULD BE AVAILAB NITY IN THE UNITED STATES."

Walter Arnol
Assistant Co
Vocational E
U.S. Office o

Delivered: Stanford University
November, 1965

SECTION 2

TECHNIQUES IN VO-TECH EDUCATION

nit ourselves totally to a new concept of vocational education—to new directions. It ne to become qualified for gainful employment—no matter what handicaps he car- wth environment into the world of work. The other side of this coin is that the en- d by reaping the benefits of advancing technology.

ation in this country, both formal and informal, is totally involved in the dynamic ning from one end of this land to the other. Vocational education's contribution to of skill and technical knowledge is a great asset to a dynamic economy. In this day of the nation bears a direct ratio to its investment in human resources. Hence, en referred to, correctly, as one of America's greatest resources.

l agreement among educators and others concerned with the nation's young people w berths for the uneducated and the poorly prepared. Yet vocational education has o too many people.

cation Act is really new. It does not represent merely a regrouping of educational al and technical fields. The Act recognizes that a **complex technology cannot be ex-** world of year 2015 will be as different from this one as 1965 is from the time ers were young. This is no time to be looking backward with yearning to the days use—or even the days of the big red brick schoolhouse. It is time to look ahead— about what vocational education should be like, and must be like, in a dynamic

GRAM OF VOCATIONAL EDUCATION SHOULD BE AVAILABLE TO EVERY COMMU- TES."

Walter Arnold
Assistant Commissioner of Education
Vocational Education Services
U.S. Office of Education

rsity
65

The implications of the problems facing Vocational and Technical education are so great that total redevelopment of traditional curricula and school planning procedures is required.

Each school faces problems which differ according to the needs of the community it serves. They are:

1. Size & location
2. Shape & spatial interrelationships
3. Media equipment emphasis

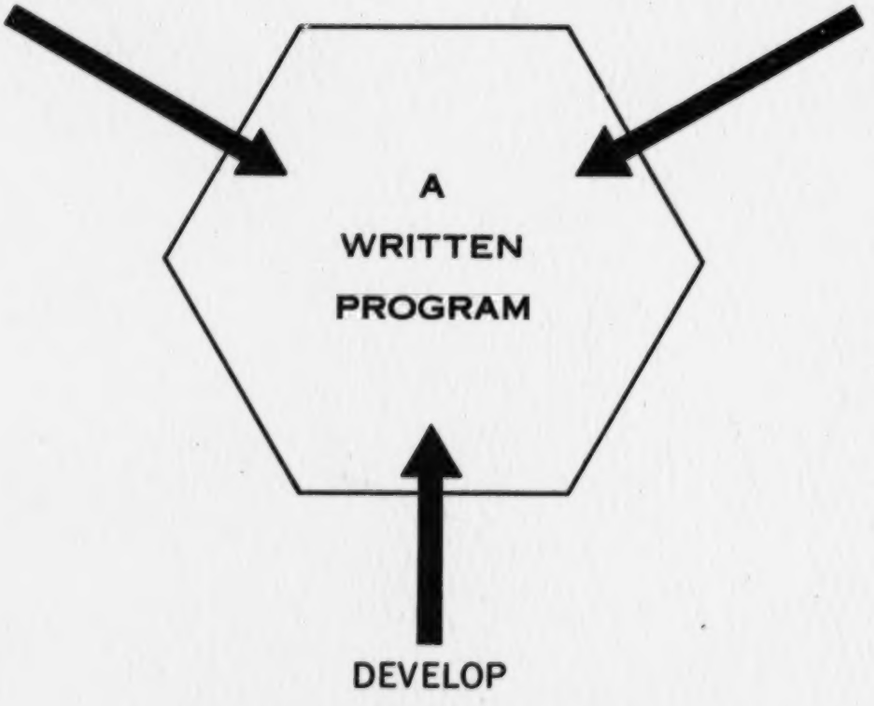
The unique needs of the community determine the functional requirements of the Vocational-Technical school. They are best developed through the coordinated team effort of the community, the educational consultant, the educator, and the architect.

TO BUILD THE RIGHT SCHOOL IN THE RIGHT PLACE AT THE RIGHT TIME . . .

THE PLANNING TEAM MUST

IDENTIFY

The present and future facility needs of the community through the development of a community master plan.

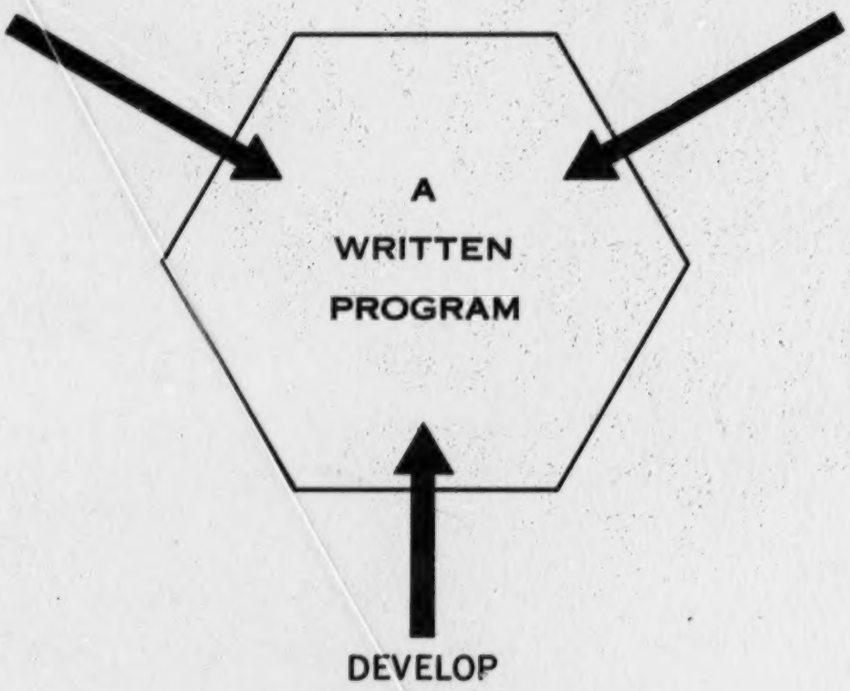


DEVELOP

Design objectives which will provide the architect with basic detail for the development of a design concept for a Vo-Tech master plan.

IN THE RIGHT PLACE AT THE RIGHT TIME . . .

faci-
nity
nt of
lan.



INTERPRET

The Vo-Tech program needs of the community as they relate to the present and future facility utilization through the development of educational specifications.

DEVELOP

Design objectives which will provide the architect with basic detail for the development of a design concept for a Vo-Tech master plan.

FIRST, IDENTIFY

The facility needs of the community, present and future, through the development of

A COMMUNITY MASTER PLAN

- ★ Appraisal of existing buildings
- ★ Analysis of present building use
- ★ Evaluation of community growth patterns
- ★ Enrollment projections
- ★ Projection of facility needs
- ★ Projection of site requirements
- ★ Site location recommendations
- ★ Development of time line properties
- ★ Assessment of community financial resources

SECOND, INTERPRET

The present and future Vo-Tech educational program needs of the community through the development of

EDUCATIONAL SPECIFICATIONS

- ★ Survey of present educational program
- ★ Analysis of trends and innovations in educational programming
- ★ Implications of program for design objectives
- ★ Compilation of detailed educational specifications with architectural implications
- ★ Continuous liason with community and architect

THIRD, DEVELOP

Design objectives which will provide the architect with basic detail for the development of a design concept for a

CAMPUS MASTER PLAN

- ★ Space allocations for educational and service functions
- ★ Area relationships and inter-relationships
- ★ Special facilities and equipment
- ★ Predicted changes in programs and implications for facility planning

IN SUMMARY,

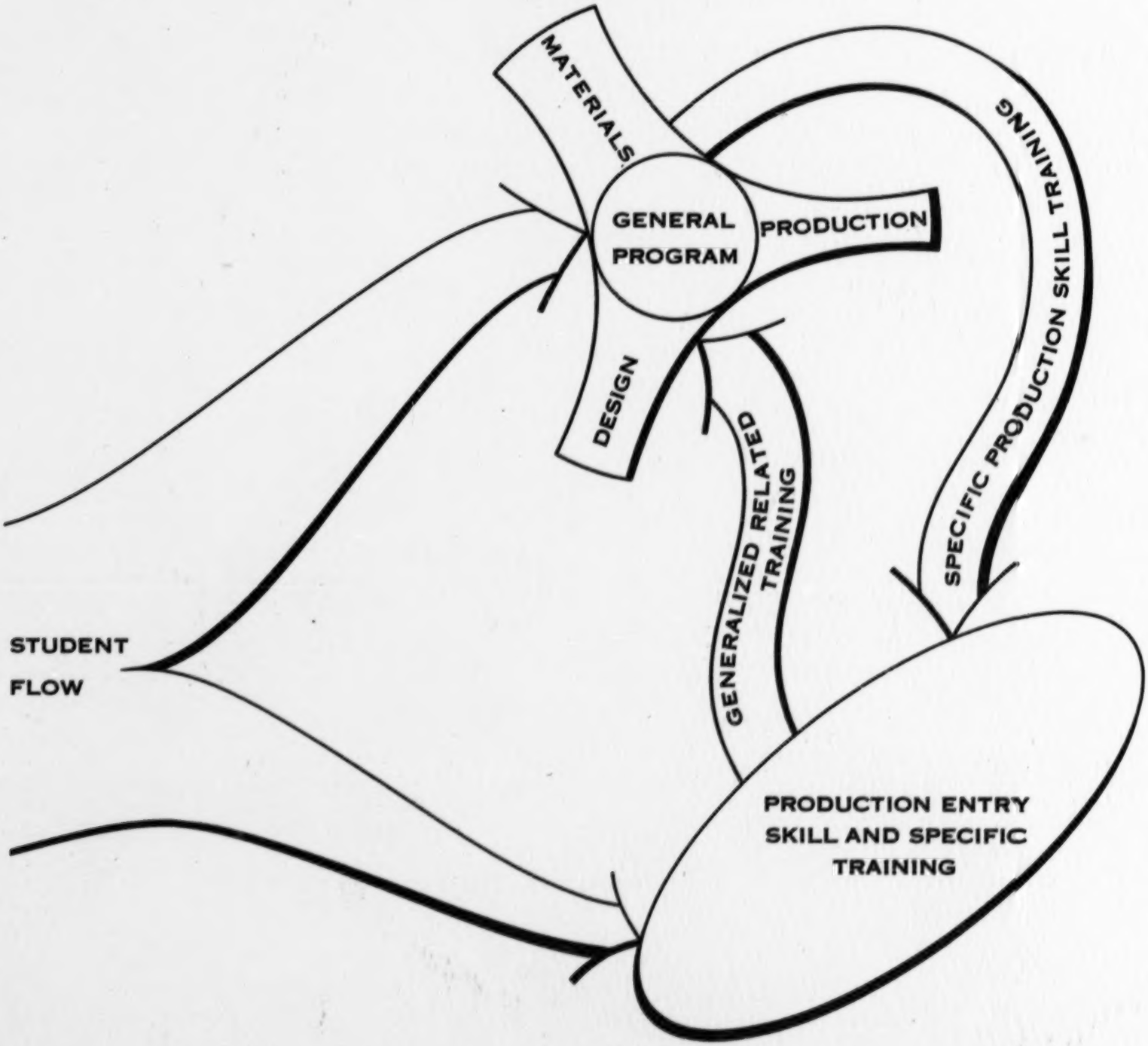
The educational consultant develops design objectives which the architect translates into a design concept as he seeks the architectural solution to the requirements of the educational program.

SPACE CONSIDERATIONS IN VO-TECH FACILITIES PLANNING

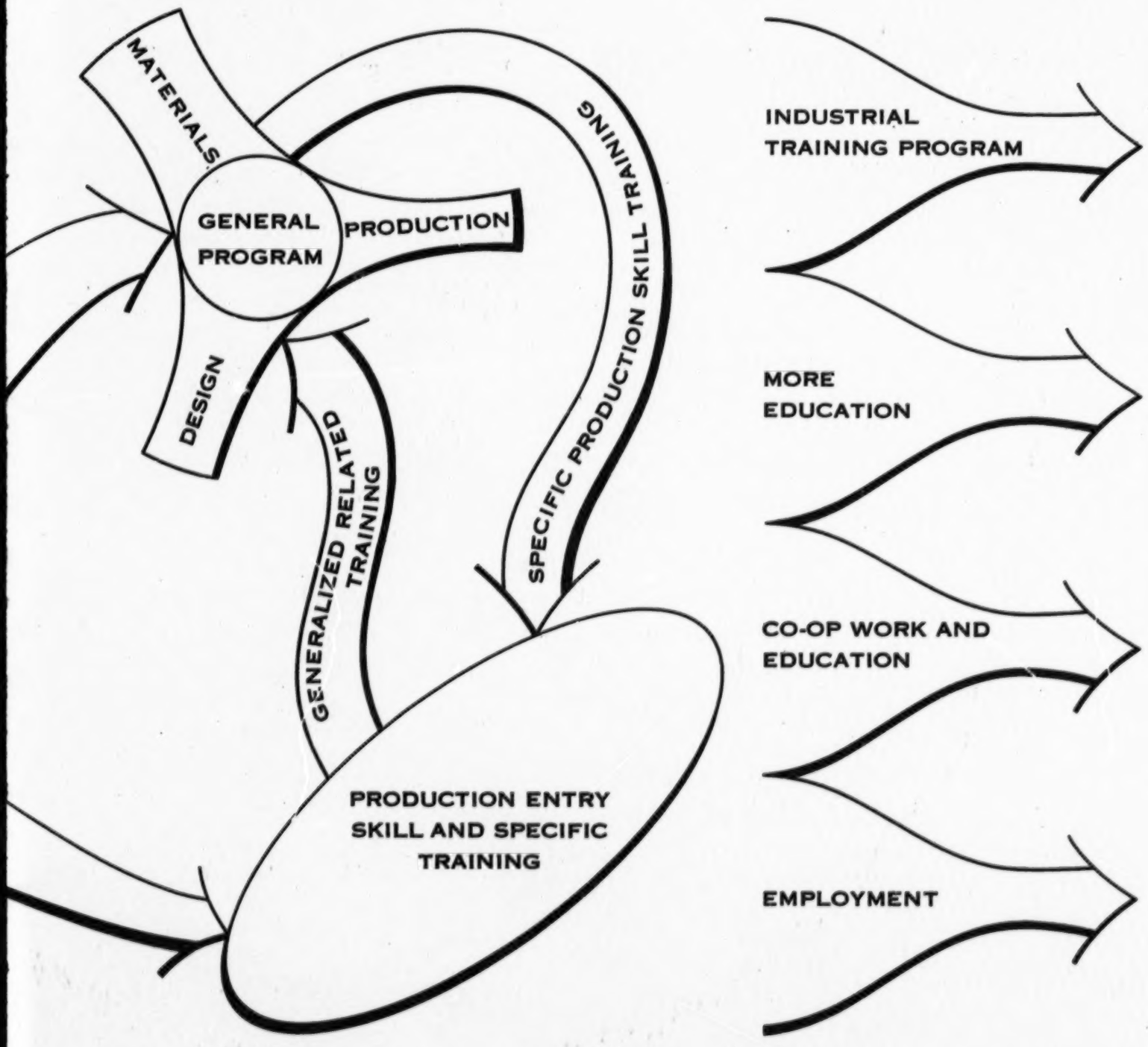
The impact of technological innovation and new teaching methodology in education requires new types of Vocational and Technical teaching spaces. They can be categorized as follows:

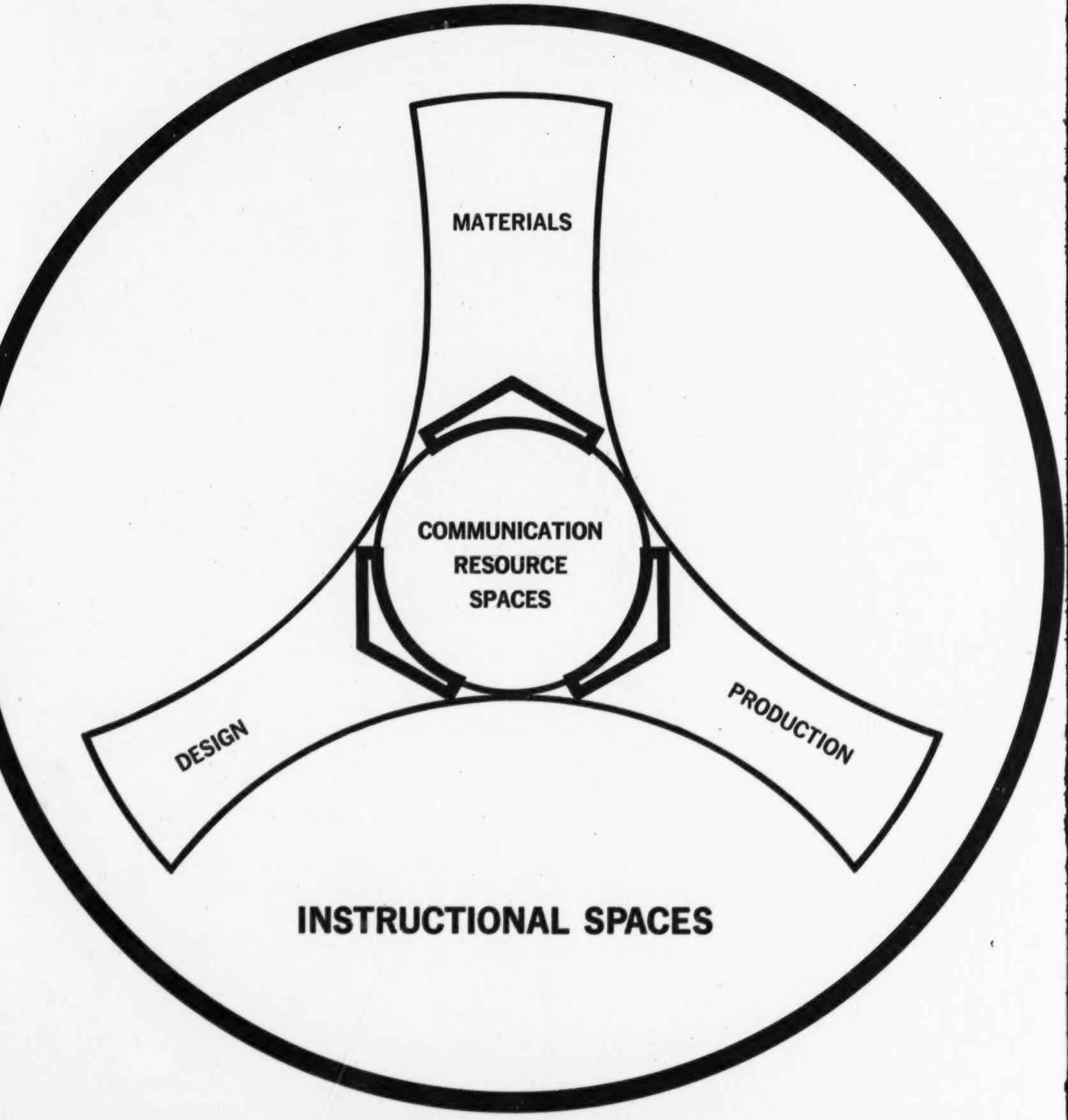
1. Instructional spaces
2. Production laboratory spaces
3. Communication and resource spaces
4. Spaces for specific "job training" programs

Prior to the development of specific spatial considerations, student and community needs must be incorporated into the program. Student activities both within the facilities and outside school walls must be carefully defined.

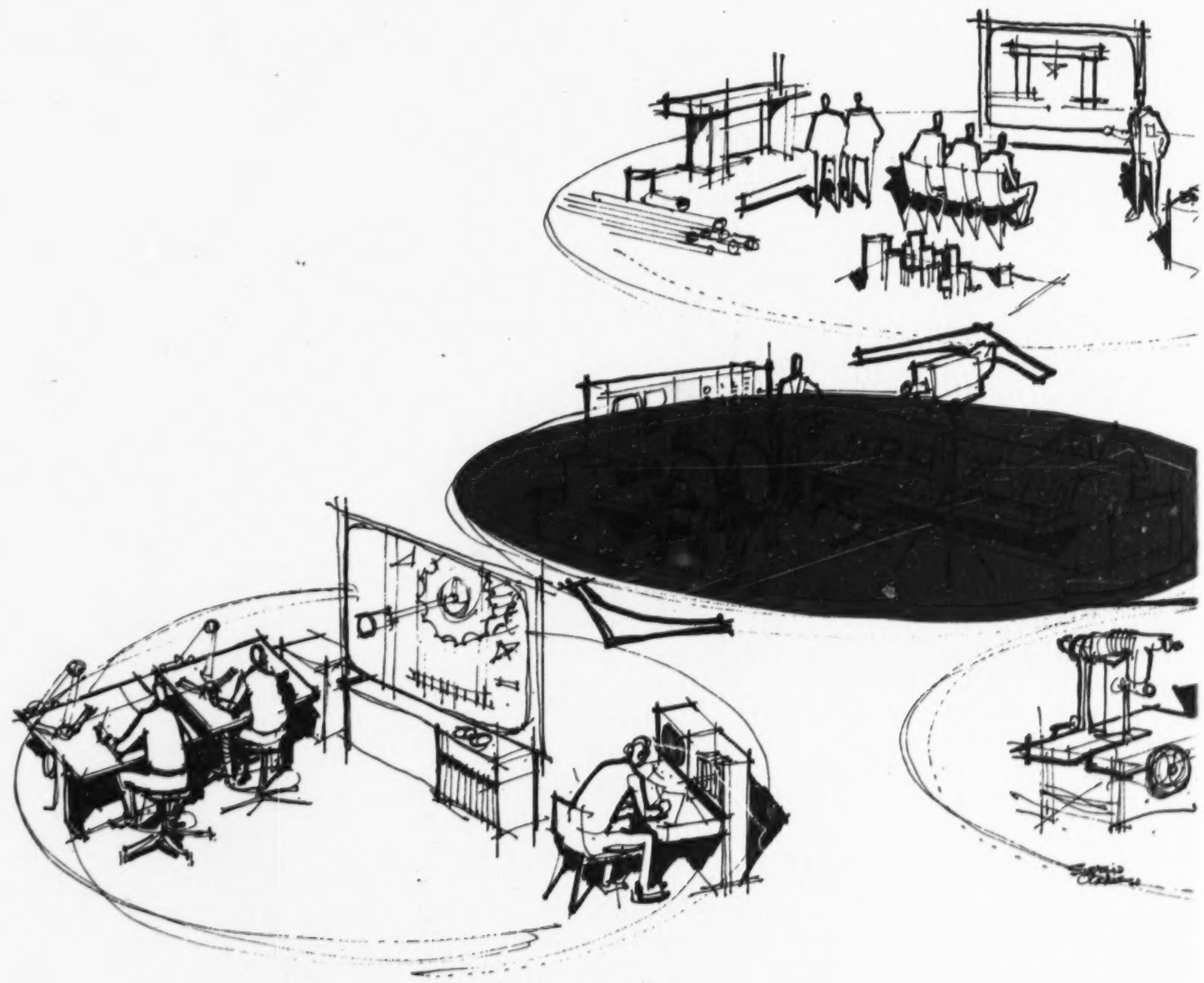


ic spatial considerations, student and community
the program. Student activities both within the
must be carefully defined.

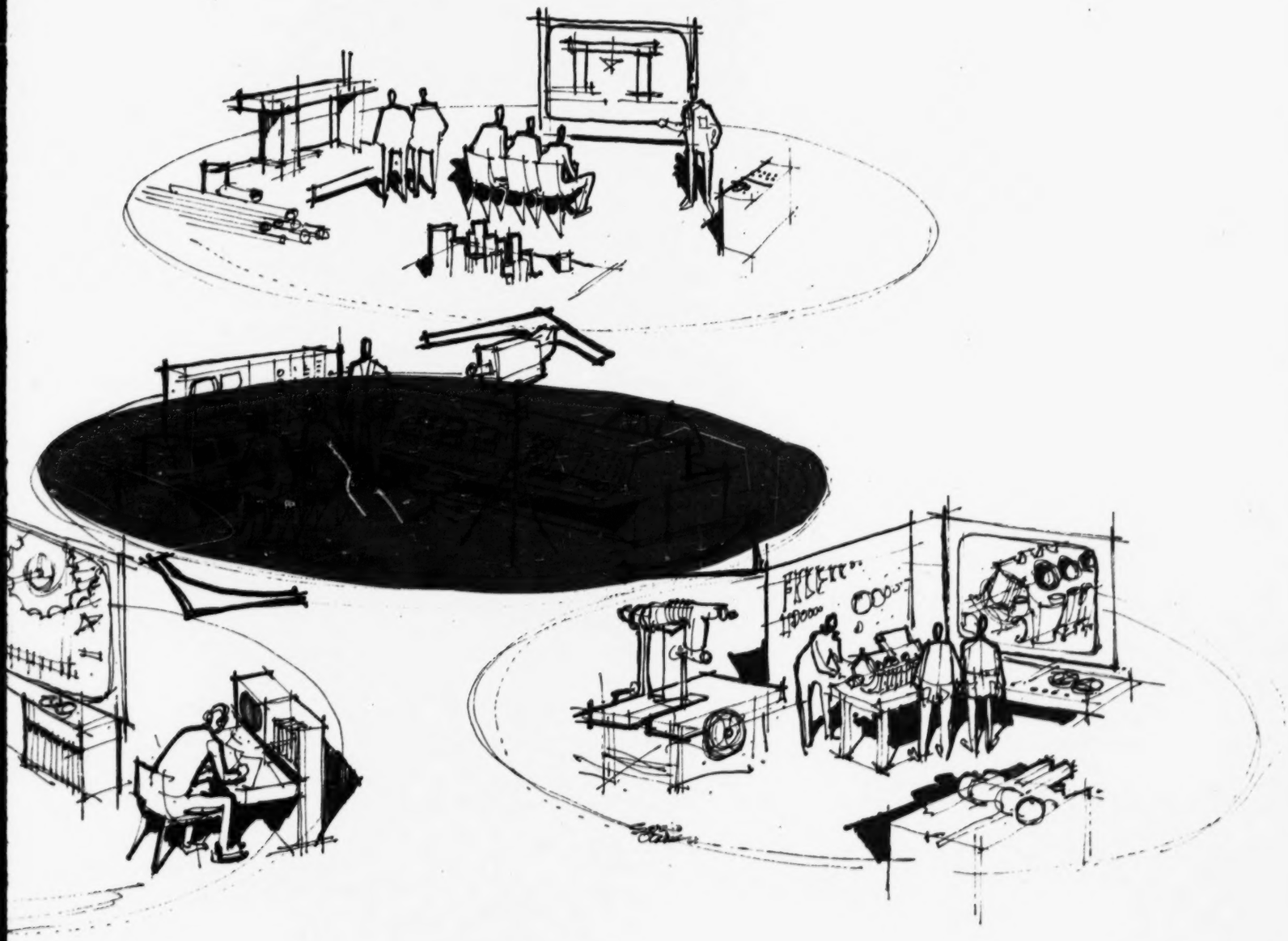



MATERIALS
COMMUNICATION
RESOURCE
SPACES
DESIGN
PRODUCTION
INSTRUCTIONAL SPACES

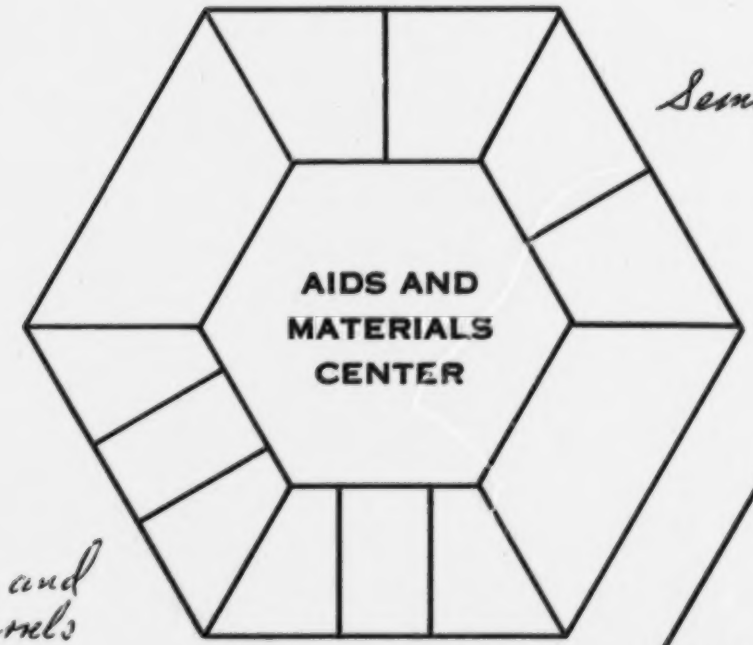
SECTION 1



SECTION 2

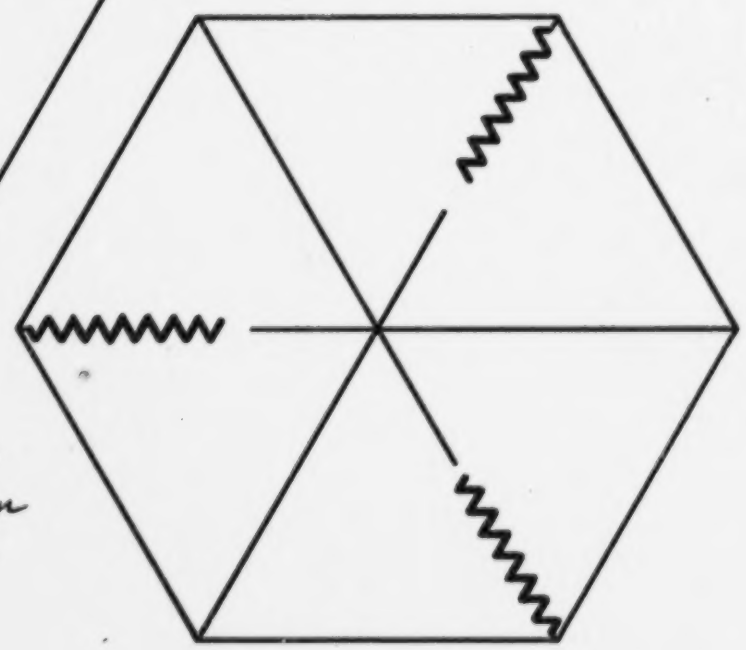


INSTRUCTIONAL SPACES provide for student-teacher contact within the context

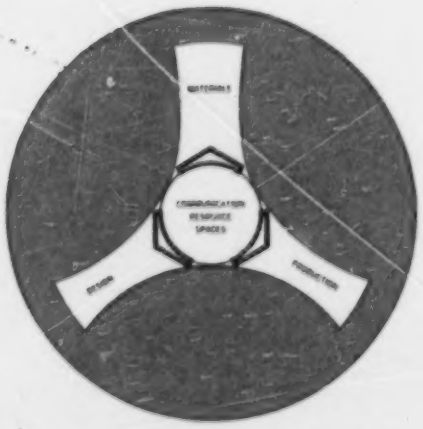


Seminar rooms

Research and study carrels



Flexible classroom spaces

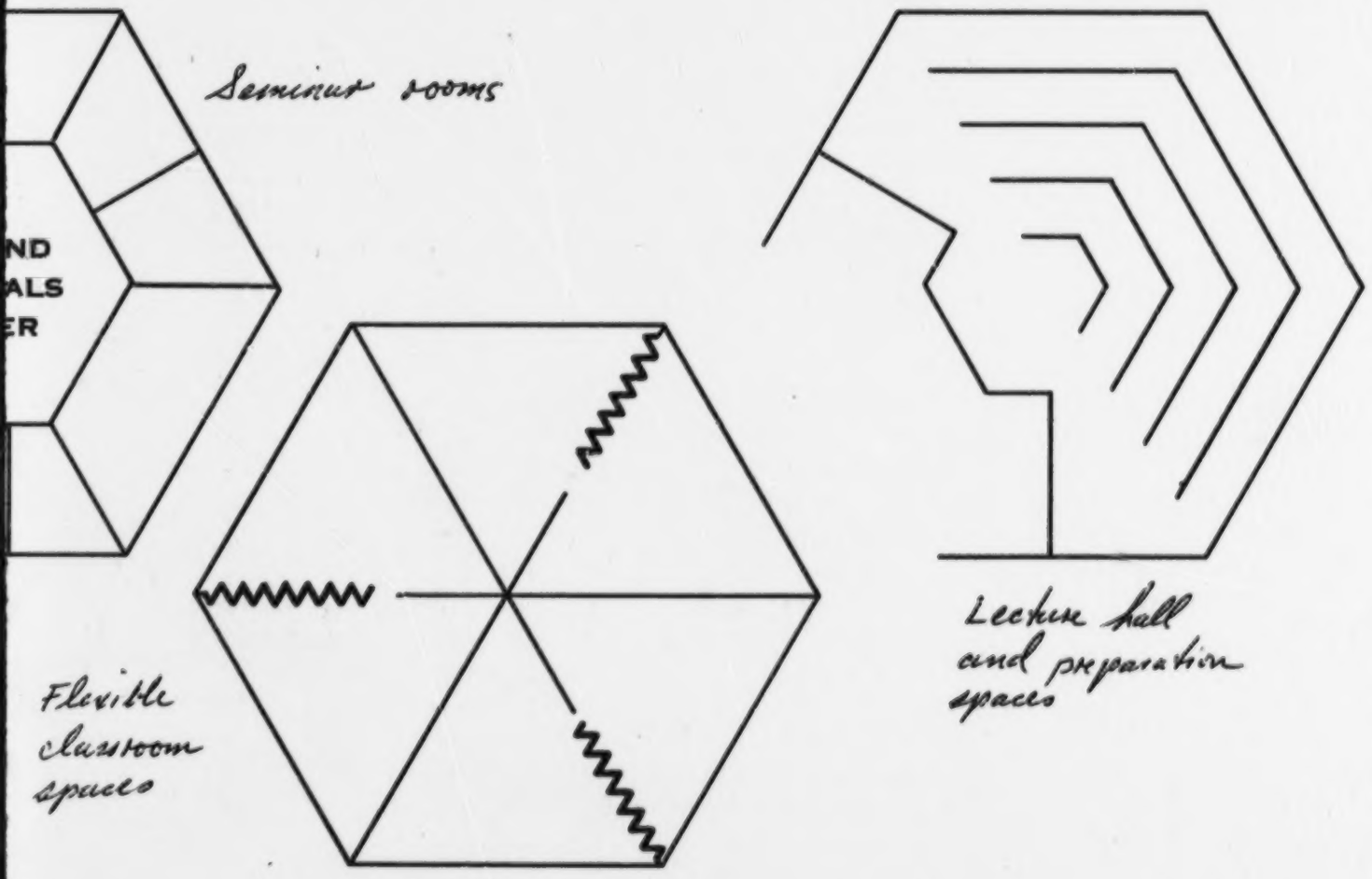


The educational processes housed in the instructional space they have always been:

1. Perception and discussion
2. Skill development
3. Learning by doing

and they should provide space for independent student researc

SPACES provide for student-teacher contact within the context of formal education

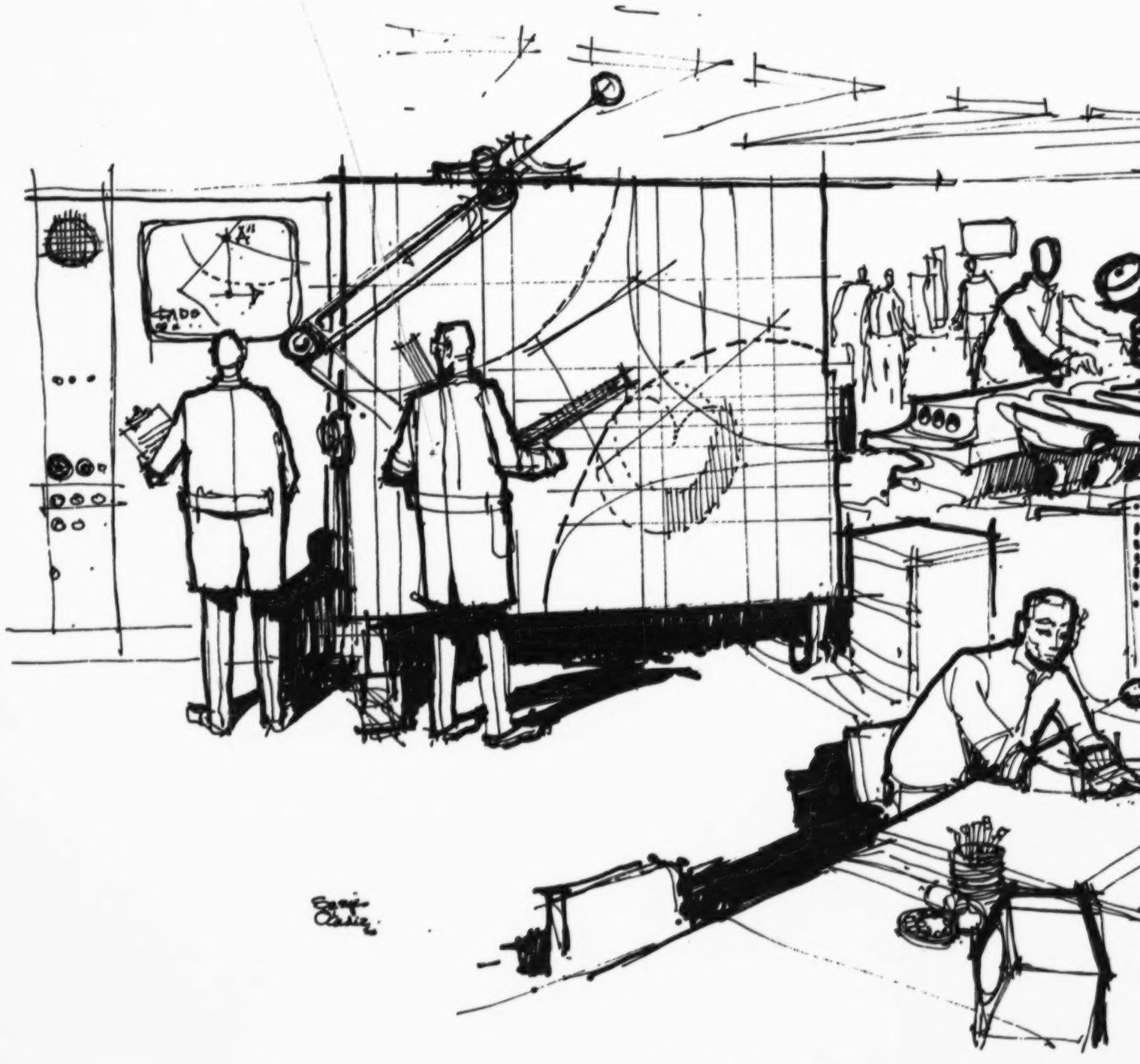


The educational processes housed in the instructional spaces will remain essentially what they have always been:

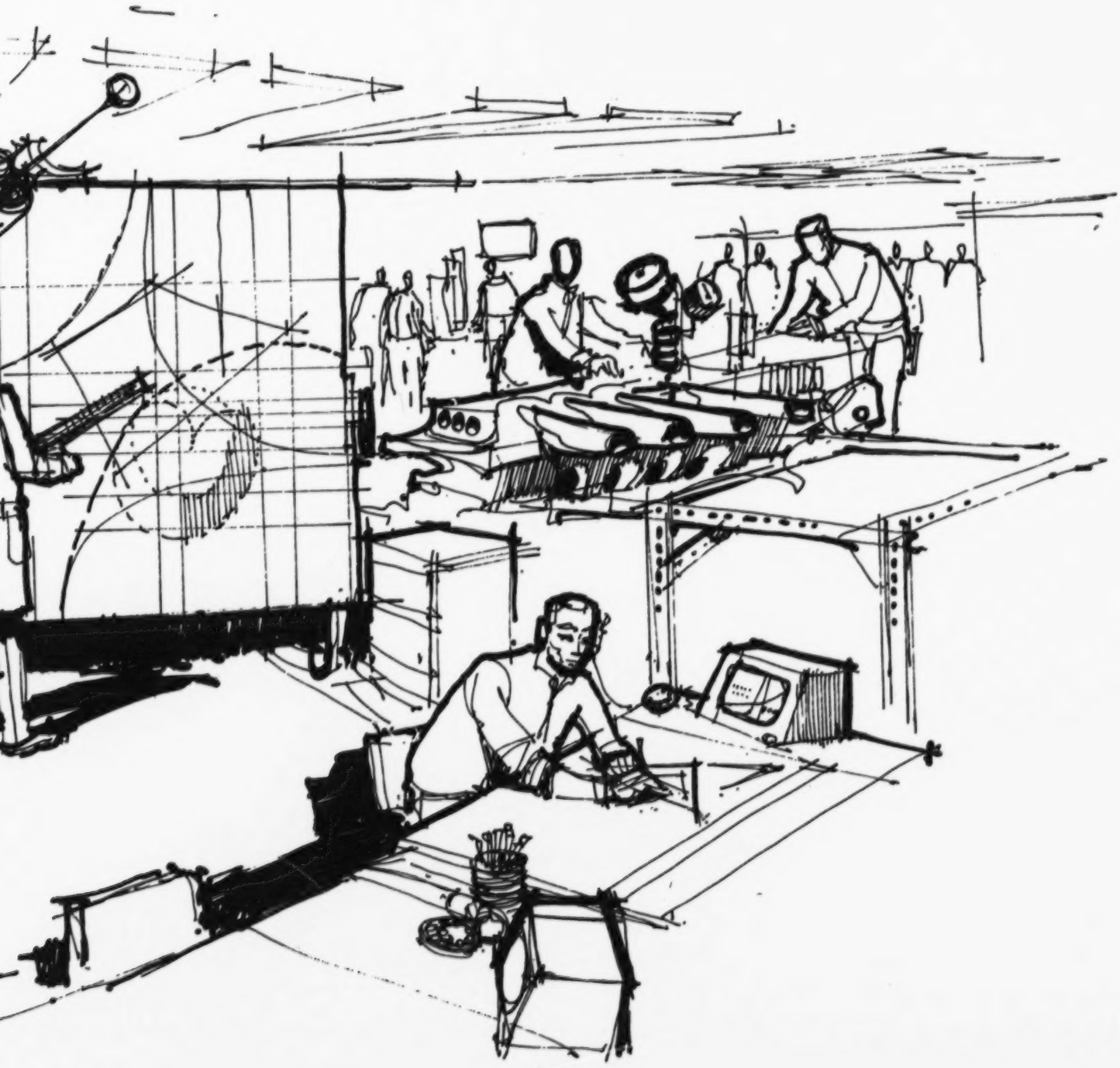
1. Perception and discussion
2. Skill development
3. Learning by doing

and they should provide space for independent student research and study.

SECTION 1

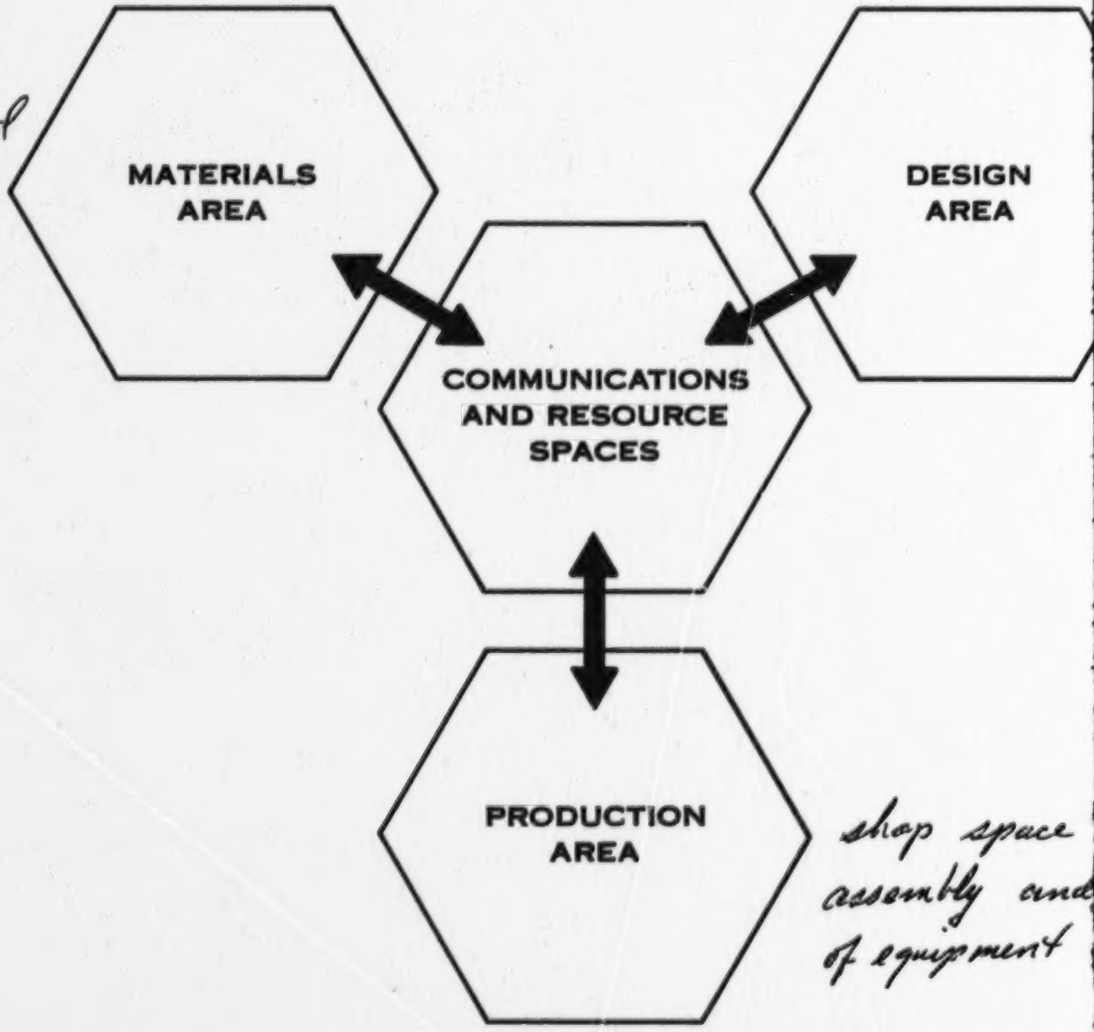


SECTION 2



PRODUCTION LABORATORY SPACES provide for the development of production techniqu

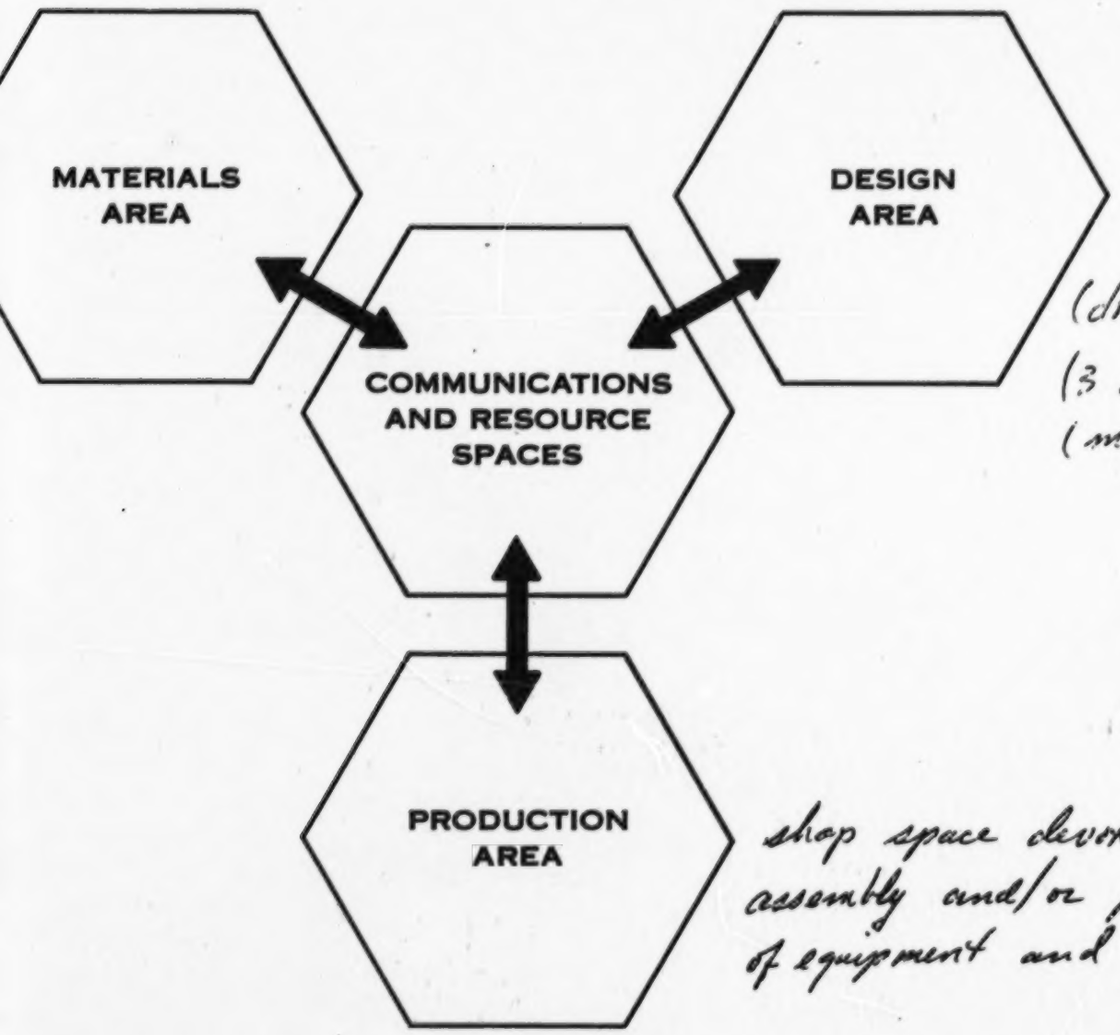
where students study materials properties and production processes. (concrete testing lab, ceramics lab, etc.)



shop space assembly and of equipment

The traditional foundational concepts of Vo-Tech education r
sion in building relationships. Each should be related to the a
utilize modern techniques in teaching.

Y SPACES provide for the development of production technique on the part of the student



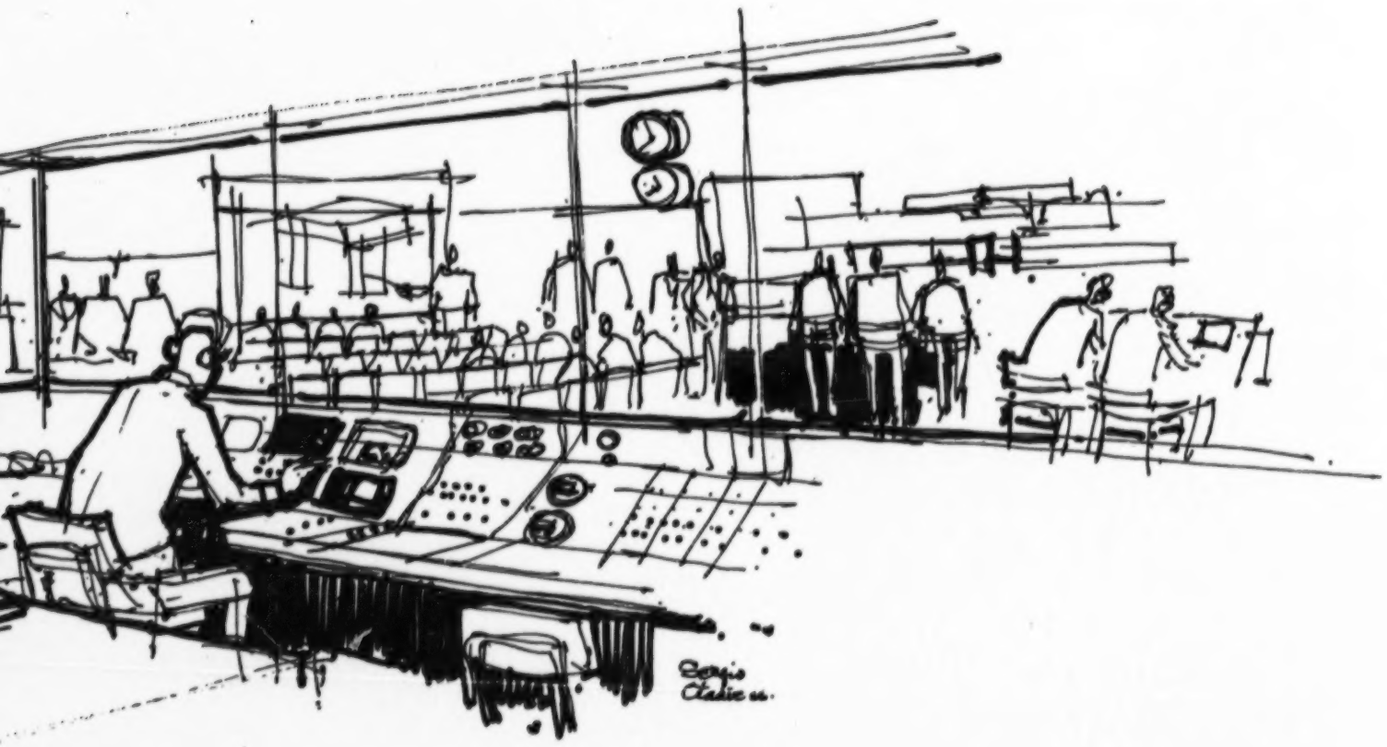
(drafting rooms)
(3 dimensional design lab)
(model making lab)

shop space devoted to assembly and/or production of equipment and products.

The traditional foundational concepts of Vo-Tech education must find new expression in building relationships. Each should be related to the aids center—to better utilize modern techniques in teaching.

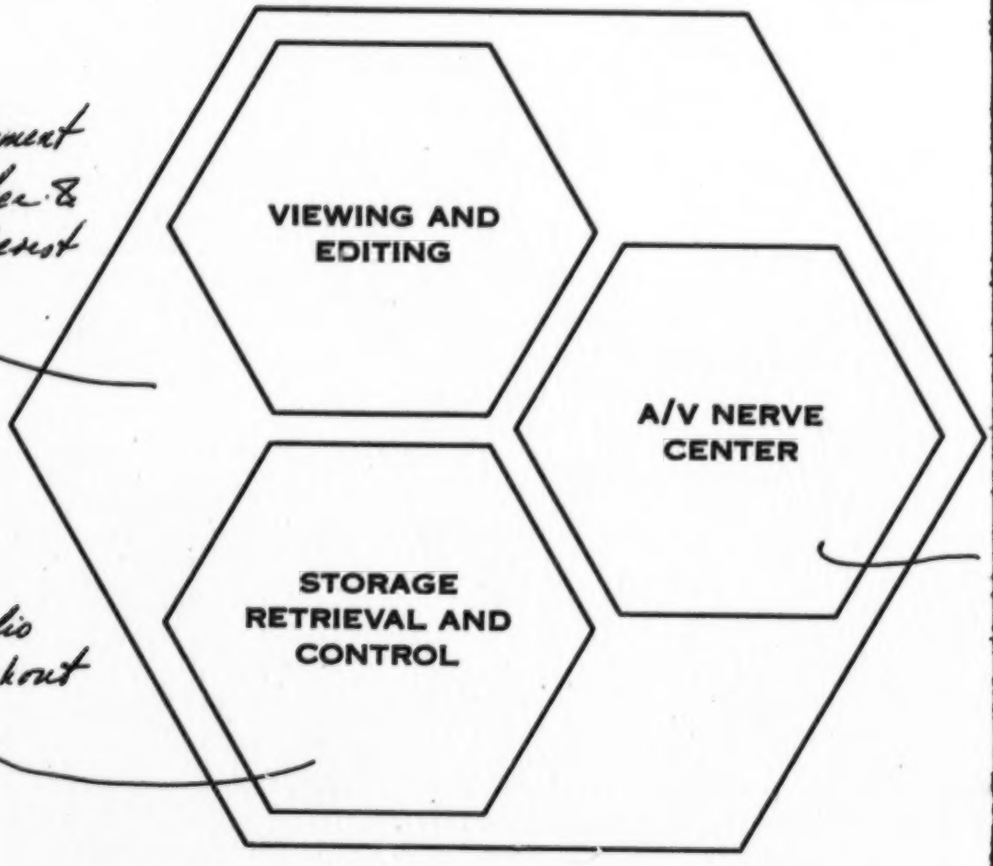
SECTION 1

SECTION 2

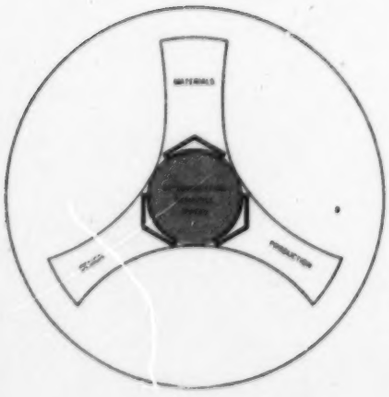


COMMUNICATION AND RESOURCE SPACES provide for the conception, developmen
communication aids to instruction

Teacher project development space (enables teacher to research his own interest field)



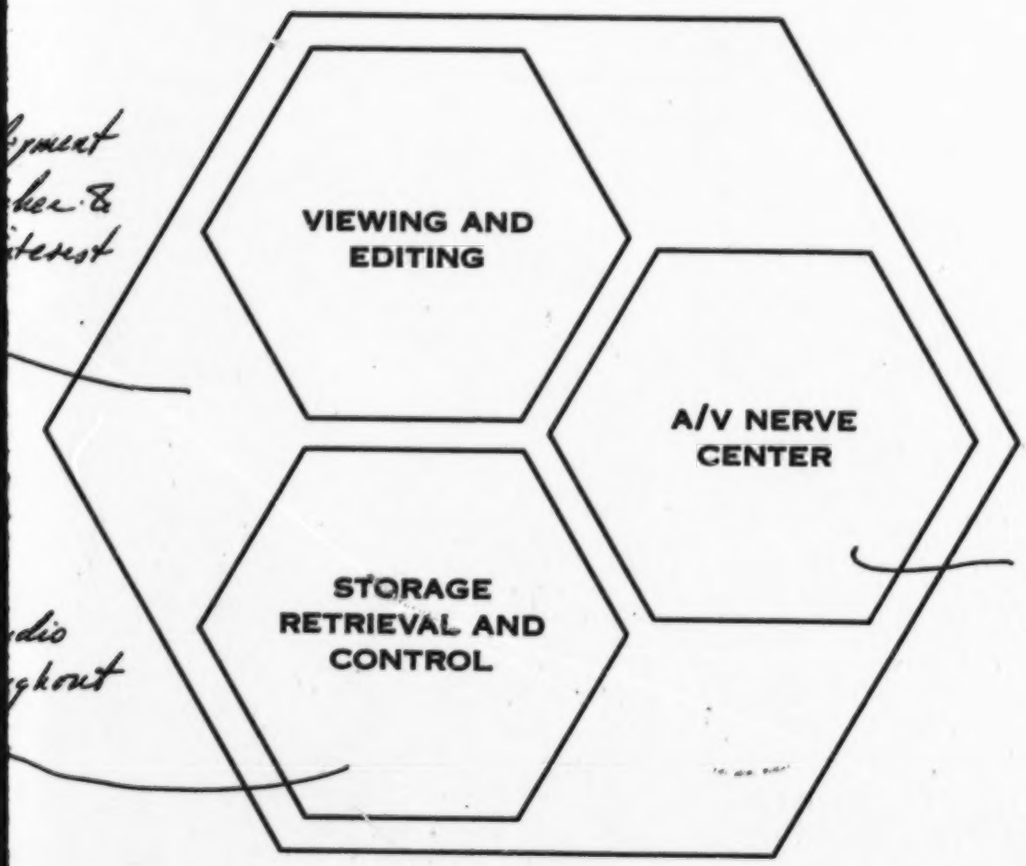
"Electronic core" studio communications throughout Vo-Tech facility



The incorporation of aids and their media into the instructi
tates the production of supporting materials. This productio
extensive operation geared for slides, motion pictures, mo
and taped television programs.

SUCH PRODUCTION WILL BECOME A TEACHING TOOL IN ITS

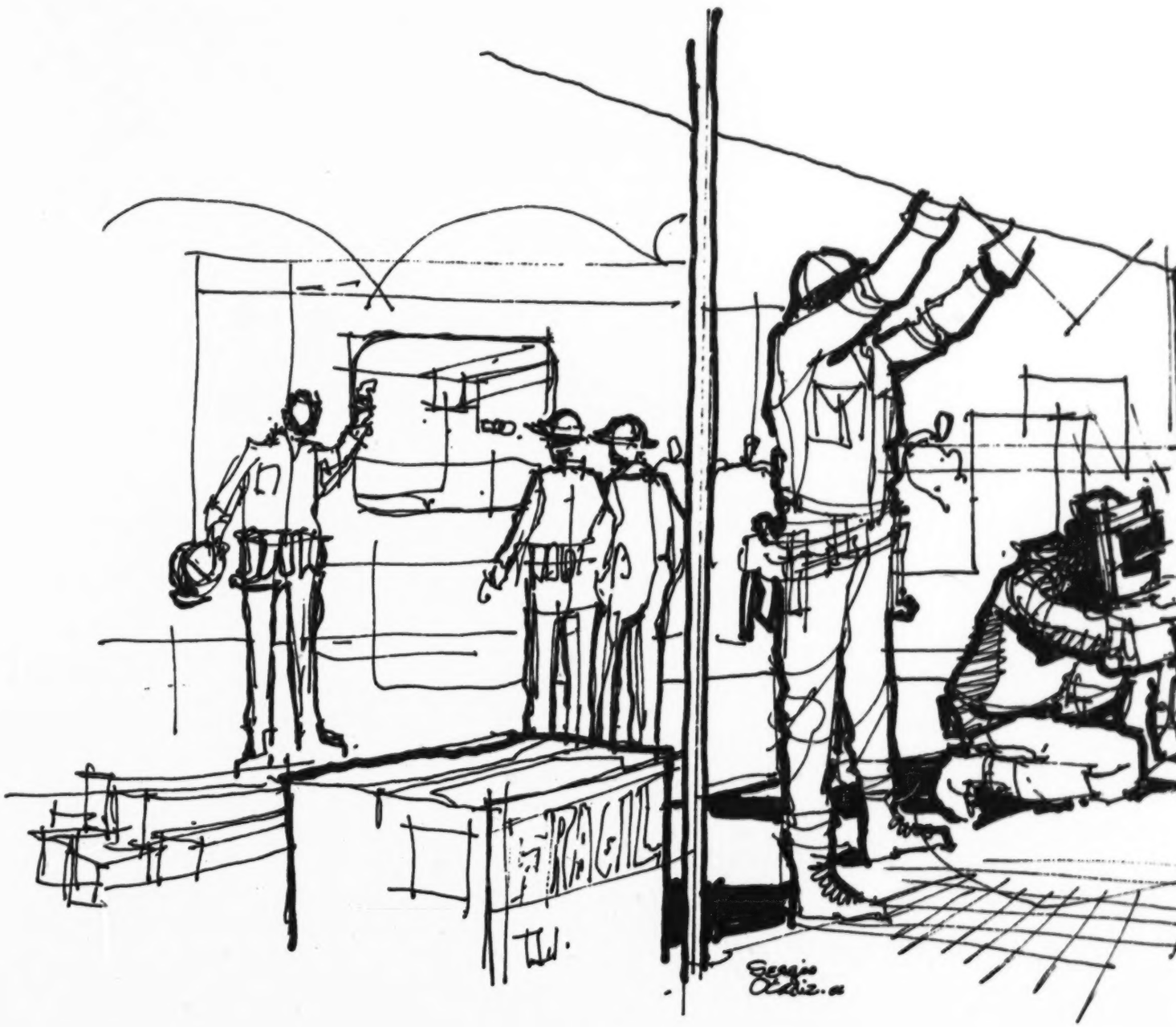
ID RESOURCE SPACES provide for the conception, development, and production of the communication aids to instruction



The incorporation of aids and their media into the instructional process necessitates the production of supporting materials. This production may become a very extensive operation geared for slides, motion pictures, models, or complete live and taped television programs.

SUCH PRODUCTION WILL BECOME A TEACHING TOOL IN ITSELF.

SECTION 1



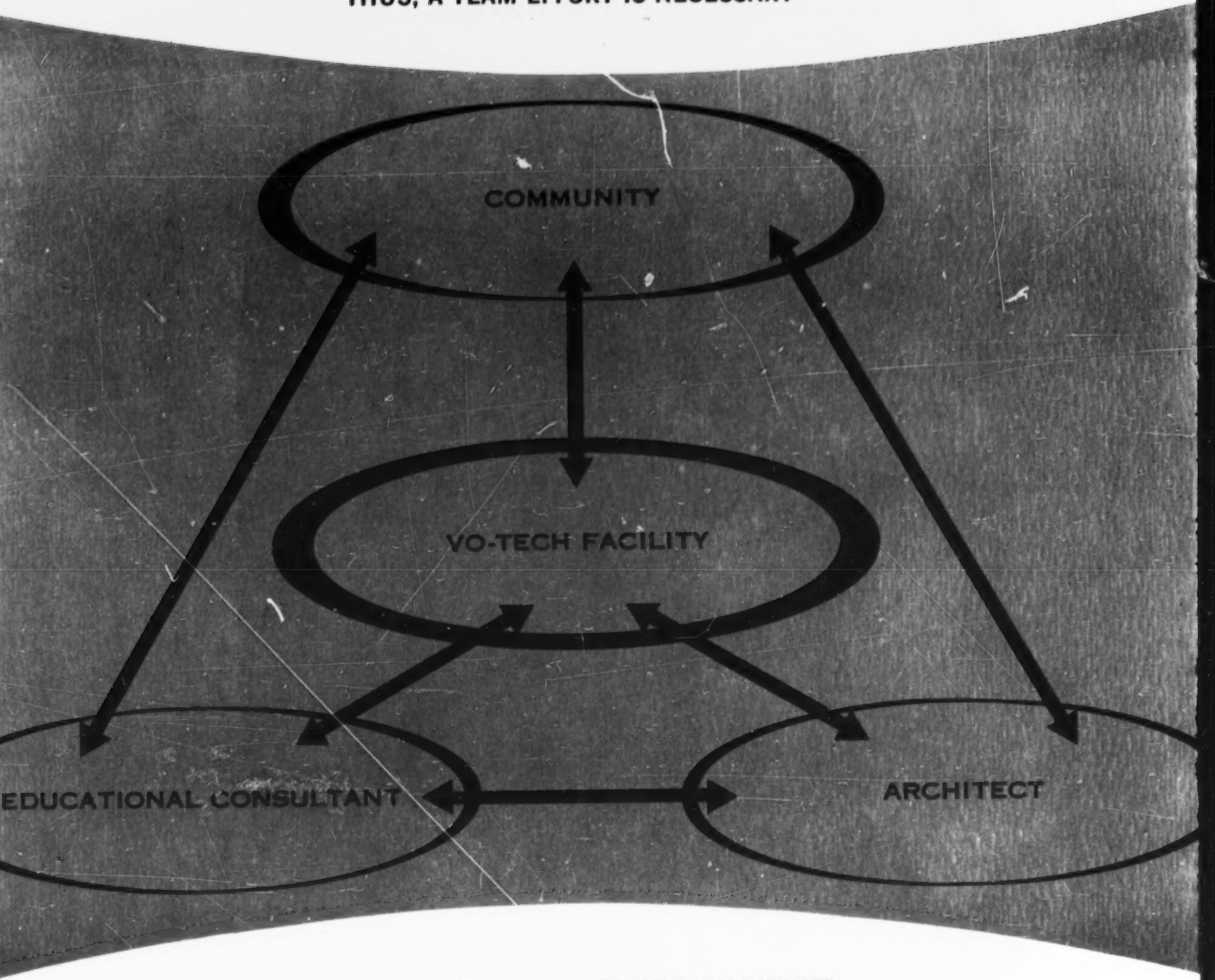
SECTION 2

SPACES FOR SPECIFIC JOB TRAINING PROGRAMS

Production laboratory spaces should be designed for multiple use by specific job training and retraining programs and by the "acquaintance" level in the generalized instructional program.

Any space devoted to specific job training must be open to modification as program needs change. Programs are changing dramatically in modern schools, and facilities must be flexible to meet them.

THUS, A TEAM EFFORT IS NECESSARY



FOR BETTER VO-TECH FACILITY PLANNING

SECTION 1

PARTICIPANTS — VOCATIONAL-TECHNICAL FACILITIES PLANNING CON

ARIZONA
Dean Frey

CALIFORNIA
Louis Batmale
Joseph Bellenger
William Blurock
Norman Boyan
George Champion
Mario J. Ciampi
Joseph Corcoran
Peter Dean
Lowell Denny
Frank Ferguson
Ted Gilles
Raymond T. Grant
George Haldeman
Ed Harriet
Anatole Jazzbutis
Claude Laval
Allen Lee
Lloyd Livingston
Merrill Luthman
Lewis Mayhew
Jack McLeod
Edward Miller
R. S. Nelson
Robert Preising
I. James Quillen
William Ralke
Lawton Reed
Al Riendeau
W. D. Robertson
Robert M. Rosenzweig
Terry Scheffield
Pamela Schoepler
Adolph Schulbach
Charles Schweizer
Wesley P. Smith
G. Wesley Sowards
Harold L. Sunderland
Raleigh Utterback
Ray Lyman Wilbur, Jr.
Ted Wolber

COLORADO
A. R. Bunger

DELAWARE
Paul M. Hodgson
Daniel E. Koble

HAWAII
William Meadville

IDAHO
John McDaniel
William Swenson

ILLINOIS
Jack O'Callaghan

IOWA
Gene M. Coffey
Norman Rutgers

KANSAS
George Bennett

KENTUCKY
William Ray
Paul W. Thurman

MARYLAND
James L. Reid
Warren G. Smeltzer

MASSACHUSETTS
Ernest Kirwan
Neal Mitchell

MICHIGAN
Grant Campbell

MINNESOTA
Guy O. Tollerud

MISSISSIPPI
Ralph M. Caldwell
W. Smith Cobb

MISSOURI
Merton Wheeler

NEVADA
John W. Bunten
Clark J. Davis

NEW HAMPSHIRE
Earl H. Little

NEW JERSEY
William C. McNeice

NEW MEXICO
M. G. Hunt
Arthur L. Matthews
George Clayton Pearl

NEW YORK
Harold B. Gores
William Haessig
Marvin Hodges
Everett Lattimer
Frank Longhran
George R. McGrath

NORTH DAKOTA
LeRoy Swenson

OHIO
D. R. Purkey
Robert Taylor

OKLAHOMA
Joseph Coleman
Byrle Killian
Wendell Locke
Francis Tuttle

OREGON
Donald Gilles
James O'Gara
Donald K. Shelton

PENNSYLVANIA
M. C. Celli
Clyde Klinger
George M. Schaffer
J. W. Struck
Ronald E. Vaughn

PUERTO RICO
Emilio Arill
Fred Montilla

SOUTH DAKOTA
E. B. Oleson
James E. Peterson
Robert Shreve
Wallace Steele
Roy J. Ziegler

TENNESSEE
Robert E. Childers

VIRGIN ISLANDS
Raphael Wheatley

WASHINGTON
C. A. Bradley
James Hicken
Richard Moe
Ben Yormark

WISCONSIN
Curtis D. Gallenbeck
Harold J. Schantz

WYOMING
Robert E. Lukins

WASHINGTON, D. C.
Harold Clark
Francis A. Gregory
Granville Woodson

U. S. OFFICE OF EDUCA
Walter M. Ar
Earl Bowler
Walter Brook
Bruce Davie
Otto Legg
T. D. McCorr
Sherrill D. M
Helen Power
John Rue
Michael Russ

SCHOOL PLA LABORATO
James D. Ma
Director
Donald Davis
Associate D
John Boice,
Associate D
Robert Lamp
Research A
Stanley Leve
Conference
Edward McFa
Arden Smith
Robert Bergo
Roger Willia
Neal Casey
Sterling Rigb
Vernon Feioc
Clarke Schill
Donn Wadley
John Meyer
Ira Ralston
Robert Ingra
William Hein
Carl Franzen

SECTION 2

ITS — VOCATIONAL-TECHNICAL FACILITIES PLANNING CONFERENCE

nderland
rback
Wilbur, Jr.

gson
ble

dville

iel
nson

ghan

fey
gers

ett

rman

d
meltzer
SETTS
n

ell

ud

MISSISSIPPI
Ralph M. Caldwell
W. Smith Cobb

MISSOURI
Merton Wheeler

NEVADA
John W. Bunten
Clark J. Davis

NEW HAMPSHIRE
Earl H. Little

NEW JERSEY
William C. McNeice

NEW MEXICO
M. G. Hunt
Arthur L. Matthews
George Clayton Pearl

NEW YORK
Harold B. Gores
William Haessig
Marvin Hodges
Everett Lattimer
Frank Longhran
George R. McGrath

NORTH DAKOTA
LeRoy Swenson

OHIO
D. R. Purkey
Robert Taylor

OKLAHOMA
Joseph Coleman
Byrle Killian
Wendell Locke
Francis Tuttle

OREGON
Donald Gilles
James O'Gara
Donald K. Shelton

PENNSYLVANIA
M. C. Celli
Clyde Klinger
George M. Schaffer
J. W. Struck
Ronald E. Vaughn

PUERTO RICO
Emilio Arill
Fred Montilla

SOUTH DAKOTA
E. B. Oleson
James E. Peterson
Robert Shreve
Wallace Steele
Roy J. Ziegler

TENNESSEE
Robert E. Childers

VIRGIN ISLANDS
Raphael Wheatley

WASHINGTON
C. A. Bradley
James Hicken
Richard Moe
Ben Yormark

WISCONSIN
Curtis D. Gallenbeck
Harold J. Schantz

WYOMING
Robert E. Lukins

WASHINGTON, D. C.
Harold Clark
Francis A. Gregory
Granville Woodson

U. S. OFFICE OF EDUCATION
Walter M. Arnold
Earl Bowler
Walter Brooking
Bruce Davie
Otto Legg
T. D. McCormick
Sherrill D. McMillen
Helen Powers
John Rue
Michael Russo
Irwin T. Johnson
Abe Konrad
Conrad Potter
Chester Kiser
Don Spellman
Bill Worden
Carl Bryant
Allan Finstad
Clyde Berry
Howard Sagehorn

SCHOOL PLANNING LABORATORY
James D. MacConnell, Director
Donald Davis, Associate Director
John Boice, Associate Director
Robert Lamp, Research Associate
Stanley Levenson, Conference Coordinator
Edward McFadden
Arden Smith
Robert Bergquist
Roger Williams
Neal Casey
Sterling Rigby
Vernon Feiock
Clarke Schiller
Donn Wadley
John Meyer
Ira Ralston
Robert Ingraham
William Hein
Carl Franzen

DRAWINGS by
Sergio O'Cadiz
of William E. Blurock Associates
Corona Del Mar, California